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EXAMINER

WONG, ALBERT KANG

ART UNIT PAPER NUMBER

2635

DATE MAILED: 03/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/408,045

Applicant(s)

TUBEL ET AL.

Examiner

Albert K Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 December 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-64 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. This Office action is in response to the amendment filed December 23, 2002. claims 1-64 are pending. New claims 57-64 have been entered and claims 1, 20, 22, 23, 24, 32-39, 42, and 50 have been amended.

**Prior rejections withdrawn**

2. The prior rejection of the claims under 35 U.S.C. 102 and 103 have been withdrawn in view of the amendments.

**Prior rejections maintained**

3. NONE.

**New rejections**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12, 20-26, 32-39, 57-59 and 61-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tubel '165 and Cretin. All cited Figures and passages refer to the '165 document unless stated otherwise.

Regarding claim 1, the claimed downhole production or injection wells are discussed in col.1. The control system including surface control, sensors, downhole devices, and controllers are taught in col. 2 and shown generally in Figures 1,4, and 6. Tubel '165 does not explicitly state that the remote controllers communicate with the surface system through a server. Cretin teaches the use of a server (item 11) to connect various underground control and monitoring

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units. It would have been obvious to use a server for the purpose suggested in Cretin, namely for providing a standard unit to process signals from a plurality of devices such that the user may access all of the data from one point.

Regarding claim 2, see col. 2, lines 30-35.

Regarding claim 3, inherent in the control of a downhole device located in a production well is the communication with the device.

Regarding claim 4, see col. 8, lines 18-25.

Regarding claims 5 and 40, col. 4 teaches the sensors located downhole. Since there is no discussion regarding the removal of the sensors, these are regarded to be permanent.

Regarding claims 6 and 41, the use of retrievable sensors is conventional in the oil well art. Retrievable sensors provide the obvious advantage of being reusable.

Regarding claim 7, the system is described to be electrical.

Regarding claims 8 and 9, col. 2 describes an artificial lift system and states that such a system may be programmable.

Regarding claim 10, see col. 2, lines 20-26.

Regarding claim 11, the monitoring of mechanical machinery to anticipate failure is well known. It would have been obvious to monitor the equipment as well as the well conditions to maximize the efficiency of production. Col. 3, lines 20-23 teaches a system that monitors the cable integrity.

Regarding claim 12, see claim 7.

Regarding claims 20-21 and 32 the communication device is taught in col. 8.

Regarding claims 22 and 33, it is clear from the communication system shown in figure 1 that the information is distributed via a network. Although the use of the Internet is not shown, it is recognized that the Internet is just an example of a WAN which allows access to data at an unlimited number of locations. It would have been obvious to connect a network database to the Internet to permit the user to gain access to the information via a remote controller. This would provide the advantage of allowing users all over the world access just like email.

Regarding claims 23 and 34, Figure 1 shows a satellite transmitting data to a base station. The base station stores and processes the data and thus functions like a database server. It would have been obvious for the base station to serve as a web server to permit distant users access to the data without the need for creating a dedicated network.

Regarding claim 24, the wells are shown in Figure 1. The artificial lift system has been addressed in claim 8 and the control system has been addressed in claim 1. The use of formation sensors is disclosed in the abstract.

Regarding claim 25, the monitoring of mechanical machinery to anticipate failure is well known. It would have been obvious to monitor the equipment as well as the well conditions to maximize the efficiency of production. Col. 3, lines 20-23 teaches a system that monitors the cable integrity.

Regarding claim 26, see claim 8 above.

Regarding claim 35, these limitations have been addressed in claim 1.

Regarding claims 36-37, this limitation have been addressed in claims 20-21.

Regarding claim 38, see claim 22.

Regarding claim 39, see claim 23.

Regarding claim 57, Tubel '165 teaches a tool body, sensor, controller and data acquisition system. Tubel does not teach a server in communication with the controller and data acquisition system where the server is in communication with a remote controller in a remote location. Cretin teaches the server as item 11 which is remote from the tool body and communicates with a remote controller (item 13). It would have been obvious to use a server to permit the user access to various monitoring devices while using a single location.

Regarding claim 58, the communication device is merely the cable linking the server with the controller.

Regarding claim 59, Tubel shows the use of a satellite system for communication between the well and a remote control location.

Regarding claims 61-64, these limitations have been addressed in prior claims.

6. Claims 13-19 and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tubel '165 as applied to claims 1 and 24 above, and further in view of Patterson.

Regarding claims 13 and 27, Tubel does not teach the use of a retrievable pump, but teaches the use of pumps for production or injection wells. Patterson teaches the use of a retrievable pump for production purposes. It would have been obvious to combine the references since they are in the same field of endeavor. The use of a retrievable pump provides obvious advantage of reusing the pump.

Regarding claim 14, the use of sensors with control systems is conventional and provides the obvious advantage of anticipating problems.

Regarding claims 15 and 28, Patterson teaches the use of coiled tubing to install the pump.

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Regarding claims 16 and 29, the pump is shown connected to an electric line for control purposes.

Regarding claims 17 and 30, col. 3, lines 65-end teaches the use of a submersible motor.

Regarding claims 18-19 and 31, the connection and control of the pump would have been obvious since this is similar to the control of any other component in the well bore.

7. Claims 42-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tubel '165 and Streetman '642 and further in view of Rinaldi.

Regarding claim 42, Tubel discloses the transmission of data collected by sensor modules to a control system which evaluates the data and optimizes the parameters. Tubel also discloses the transmission of signals to a remote controller. Tubel does not disclose a computer with internet access. Streetman teaches the use of the Internet to access data from a plurality of wells. It would have been obvious to use the Internet to gain access to data since this permits many users at various locations to gain access to monitored data without building a special network or requiring complex hardware. Tubel also does not explicitly teach the use of optimization software. Rinaldi teaches such a program for production wells. Since they are in the same field of endeavor, it would have been obvious to combine the references to gain the advantages taught in each.

Regarding claim 43, the use of memory to store data is conventional and inherent in the system of Tubel. Processed data must be stored at some point.

Regarding claim 44, as recited above, the monitoring of equipment to anticipate problems would have been obvious.

Regarding claim 45, see Figure 1 of Tubel.

Regarding claim 46, the system of Tubel allows the surface unit to modify the operation downhole. It would have been obvious that the command may be sent from a variety of locations since the system stores the measured data in a network. Remote control provides the obvious advantage of being able to locate workers offsite.

Regarding claim 47, it would have been obvious that data is accessible at any point in the network of Tubel.

Regarding claims 48 and 49, Tubel teaches these features.

Regarding claim 50, the satellite interlinks the wells to a central control in Tubel and thus the command may be sent from any location.

Regarding claim 51, the use of digital or analog communications is inherent.

Regarding claim 52, see Tubel.

Regarding claim 53 and 54, Rinaldi teaches the control of chemicals and the injection of steam to optimize production.

Regarding claim 55-56, Tubel teaches the advantage of monitoring water and formation influx.

8. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tubel '165 and Cretin as applied to claim 57 above, and further in view of Streetman '642.

Regarding claim 60, Tubel and Cretin does not teach a remote computer with Internet access. Streetman teaches the use of the Internet to access monitored data. It would have been obvious to use a computer with Internet access to permit the user to gain access to monitored data at a large number of locations.



**Response to Remarks**

9. The Examiner now cites the Cretin as teaching the use of a server to connect the surface system with the remote controllers. The server allows the accumulation of data from various sources within a plurality of wells and permits the user to access the data from all wells from a single point. Streetman teaches the monitoring of production from a well using the Internet. Although the use is limited, it is recognized that the data sent via the network is not so limiting. Any command and control data as well as monitoring data would work equally well.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert K Wong whose telephone number is 703-305-8884. The examiner can normally be reached on M-Th.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 703-305-4704. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.



Albert K. Wong  
March 12, 2003

MICHAEL HORABIK  
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